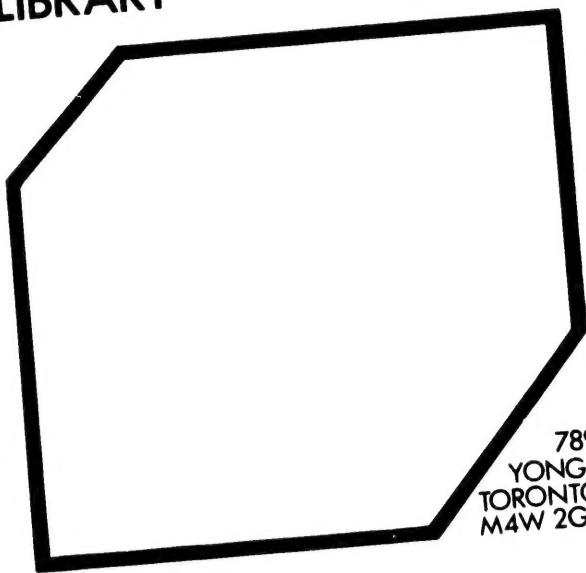


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HISTORY AND DESCRIPTION  
OF  
THE STYLES COAL MINES,  
And Adjoining Area of One Square Mile.  
With Copies of Reports, Assays, &c.

---

PROPERTY SITUATED NEAR  
*Amherst, Cumberland County, Nova Scotia.*

---

OWNED BY

C. F. FRASER AND HOWARD CLARK,  
HALIFAX, N. S.

---

HALIFAX, N. S.:  
HALIFAX PRINTING CO., 161 HOLLIS STREET,  
1888,

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June 20/62

## DESCRIPTION.

The Styles Coal Mines embrace five square miles of coal lands, to which an adjoining square mile has been added, making in all six square miles.

The Mine is situated upon the northern side of the Great Cumberland Coal Trough or Basin, which extends easterly for 18 miles or upwards from the South Joggins shore, almost directly opposite the Spring Hill Coal Mines, now the most profitable in Nova Scotia

The Mine lies close to the Intercolonial Railway, to which a branch line could be constructed at small expense, as the Dominion Government grants liberal subsidies to such works, and there are no engineering difficulties to be overcome.

Amherst, a flourishing town, is near by, and the Mine lies almost midway between Halifax, the largest city in Nova Scotia, distant 122 miles, and St. John, New Brunswick, distant 137 miles.

## SHIPPING FACILITIES.

While the Coal Mines of Cape Breton, which depend upon water communication, are unable to ship for some months of the year on account of ice, the Styles areas are near the railway, and coal may be shipped the year round. Branch railways

of a few miles in length connect with shipping ports on the Gulf of St. Lawrence and the Bay of Fundy, so that during open navigation coal may be shipped to Montreal, Quebec, St. John, and United States ports by water. The completion of the Short Line to Montreal will shorten the distance to that city some 240 miles, and this mine, being in the same advantageous position for shipment by rail as the Spring Hill Mine, will be in a position to share all the advantages of that fine paying property.

### TITLES.

The titles are perfect, and are leases from the Nova Scotia Government for 20 years, renewable on expiration for a like period, and are practically perpetual.

### ADVANTAGES.

The special advantages of this mining enterprise may be summed up as follows :—

1. The quality and quantity of the coal.
2. The favorable location, being close to the Railway and shipping.
3. The markets ready for its disposal, and the facility with which they are reached.

Below we print the Report of E. N. Sharp, M.A., a gentleman acknowledged in Nova Scotia as a most reliable authority in mining matters :—



## A REPORT OF THE STYLES COAL PROPERTY,

BY E. N. SHARP, M.A.

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1. The Styles Coal Property in Cumberland County, Nova Scotia, Canada, comprises five (5) square miles of areas held under Government Lease for 20 years from August, 1886, renewable for two like periods of 20 years each—practically perpetual.

2. The situation is on the northern side of the great Cumberland Trough or Basin, which extends easterly for 18 miles or upwards from the South Joggins shore, almost directly opposite the Spring Hill Coal Mines—the most productive in all Nova Scotia—which lie upon the south side of the Basin.

3. Two workable seams of coal of excellent quality run (but a few feet apart) through the property in such a way that nearly the whole area is underlaid by them, proved by borings and “trial pits” by one shaft and three small “slopes.” The North Seam is 4 ft. 2 in. thick, and the South Seam, overlying the North Seam, is 3 ft. 6 in. thick, with a parting of about 6 in. in the middle. Thus the two seams aggregate upwards of seven (7) feet of coal.

4. These two seams are but 540 feet stratigraphically above the "Mill-Stone Grit," and as there is a belt of the productive coal measures nearly a mile wide (surface measurement) extending from end to end of the property, and overlying these seams, it is highly probable other, and in all likelihood, thicker seams of coal will be found on the property. In both the Jeggins district on the one hand, and at Spring Hill on the other, the largest known seam in the whole formation, considerably overlies the other principal seams, and is consequently thousands instead of hundreds of feet from the uppermost beds of the "Mill-Stone Grit."

5. A very important feature in the Styles Coal District is the great regularity in the "strike" or run of the seams—of the "measures" indeed in the whole locality there is not a break or "fault"—not even a curve—so far as examined, and there is no surface or other indication of any underground trouble likely to impede successful mining.

6. As in developing Spring Hill, the sum of \$150,000 was originally spent—including, say, \$50,000 on the Branch Railway—\$100,000 ought to open two (2) pits on the Styles property, and well equip them, build miners' cottages, and furnish the other needed appointments for successful working.

7. These two Pits, on an average of 4 or 5



years, should yield, say, 90,000 tons of coal a year ; and at the moderate estimate of one dollar a ton profit above all contingencies, there will be a handsome return on the money to be invested. As in the case of Spring Hill, more extended works can be added from surplus earnings, part of the profits being thus so capitalized as to avoid disturbing the labor market by dividends of unusually large percentage.

8. For a second term of, say, five years—as at Spring Hill lately—there may reasonably be reckoned on an enormously increased out-put and sale of coal ; with more than a correspondingly augmented net return per annum to the owners, since the cost of management, etc., will prove nearly a constant factor in the case.

9. By the Intercolonial Railway and its numerous connections, an ample outlet to market for a very large annual out-put and sale of Styles Coal will be at hand on completion of the proposed Branch Railway, a few miles in length from the main Government line to the Styles Mines.

10. The Branch Railway in question can be built by the Canadian Government under existing enactments, on the Hon. Minister of Railways being assured that such Branch will become a prolific traffic feeder to the main line. As the Government Return for 1887 (see Mines Report, N. S., p. 63) shows upwards of 304,000 tons of coal forwarded

within the year from Spring Hill Station alone, it will not be difficult to persuade the head of the Railway Department that an easily constructed Branch of, say, three or four miles in length, should be promptly undertaken and so vigorously pushed on as to be ready for operating simultaneously with the contemplated opening of the Styles Collieries.

11. There are good traffic highways already leading to and through the Styles Property, so that machinery, plant, etc., can readily be conveyed to it and put in place during the building of the Branch Railway; and the coal taken out in sinking the pits and driving the levels and other working ways, can be marketed in Amherst, where the coal is well and favorably known, and to which there is a good road.

12. Analyses made from the Styles coal do not widely differ from those of Spring Hill. Portions of both the south seam, and more particularly the north seam, are true cannel coal, and as such are more highly bituminous—richer in gas of a high illuminating power—than the average Spring Hill coals.

13. The following proximate analyses are given as a fair average of the "crop" coals:—

	Spring Hill.	Styles.
Moisture .....	1.12	1.13
Vol. combustible matter .....	32.68	34.02
Fixed carbon .....	61.83	60.28
Ash .....	4.08	4.39
Sulphur.....	.46	.31
Evaporative power.....	8.77	8.64
Specific gravity .....	1.30	1.32
Coke .....	65.91	69.67

14. For house and gas-making the Styles coal is clearly superior to Spring Hill, while as a steam producer it very nearly equals that popular coal. A comparison of the figures given in the foregoing analyses will indicate this. As to the popularity of Spring Hill coals in the market, a mere glance at the continued increase in the annual sales ought to be convincing.

15. The leading merchants and professional gentlemen of Amherst, ten years ago. certified, that from actual trials of the Styles coals in their houses, they proved the best they had ever used ; burning with a long brilliant flame, showing great enduring qualities, giving enormous heat, making no clinker, and containing a very small percentage of dark ash.

16. A late Government Inspector of Mines for Nova Scotia, says of the coal from the south seam, which is in quality perhaps the inferior of the two : —“It burns freely, yields a good flame, and a

capital *hard cinder*, indicative of good coking coal. The ash is a little in excess perhaps, brown in color, with a particle of white ash."

17. The prospective output from the Styles property is in the foregoing (Vid. sup.) set forth very moderately, and with a view to gradual development, the additional expenses of extensions to be made beyond those of the first year or two being supposed to be taken from the profits derived from the working of the mines. But as the demand for any reasonable annual product from the very start is sure to be equal to, if not much greater than any given output, a larger sum than \$100,000—say double that—may be very profitably expended in the primary development of the mine on a scale only second, if inferior at all, to Spring Hill as running now. The cost of management, etc., yearly, will be nearly the same in either case; the more energetically worked, the smaller the percentage of water to be raised from the mine, as compared with the quantity of coal raised, as also a somewhat similar saving in ventilation; a doubled, trebled, or quadrupled yield, therefore, will afford a far finer net return than that of the moderate estimate set forth in the earlier part of this Report.

18. The floors, roofs, and even the layers of the two Styles seams, are all such as are well suited to a very advantageous practical working of the mine.

19. Of the geographically commercial position of the coal mines in Cumberland, it is impossible to speak adequately here. In the latter part of paragraph three (3) of a printed paper on the Styles property, under date 11th April, 1878, details are given, which I quote as follows:—

“It must be observed, also, that the geographical and commercial situation of these Cumberland mines is a great advantage to them. While the Cape Breton coal-field is placed beyond the eastern extremity of this part of the continent, and the Pictou field is too far east as well, and, again, the harbours upon which both have mainly to depend are blocked with ice or otherwise rendered practically inaccessible for at least five months in the year, the Cumberland field, on the contrary, is at the centre of the “land bridge” connecting the Nova Scotian peninsula with the rest of the continent, and besides having a perpetual customer *in* and *over* the Intercolonial Railway, and being the Nova Scotia coal deposit nearest the other principal Provinces of Canada and the Eastern States of the American Union, it is connected by rail with harbours such as Parrsboro and Dorchester, the former open the winter through; it commands all the towns and settlements on the shores of the Bay of Fundy; and it lies 300 miles nearer than Cape Breton and Pictou to Portland, Boston, New York, and all other Eastern Atlantic ports of the United

States, with a corresponding advantage in freights. With the Pugwash Railway completed, these Cumberland coal mines will be at the cross-roads in the railway net-work of the district. The Intercolonial affords, besides its own great consumption, ready and direct access to the great and growing markets of the inland regions extending from Truro to Riviere du Loup—a distance of 500 miles—and to all points intermediate between Moncton and St. John as well. The Parrsboro line supplies, aided by the Intercolonial to Dorchester, a convenient harbor for shipment to St. John, and to all other Bay of Fundy and New England ports, and that too at an average saving of a dollar a ton in freights over Pictou and Cape Breton. The Pugwash Railway will give an easy means of export to Prince Edward Island, to Newfoundland, to the North Shore ports of New Brunswick, and to Quebec, Montreal, and other places on the River St. Lawrence, with return freights from the last named of flour and other western productions either for consumption here or trans-shipment to the West Indies and other markets. Being more centrally located, then, than the other coal-fields, and nearer to the many new lines of railway and of steamers in these Maritime Provinces, with the correspondingly rapid increase of demand for coal in place of wood, (which is becoming scarce and dear) it must be apparent that, while there is cer-



tainly enormous value in those other great fields, we have numerous advantages over them—sufficient, we trust, to be convincing that our price is not excessive.”

20. The Spring Hill property (first opened in 1873-4) in the year 1876, yielded 76,000 tons of coal; and the company operating it, after paying from that year's profits a five (5) per cent. dividend on half a million dollars' capital, placed upwards of \$9,000 to “rest.” In 1877, the yield from that property was 93,000 tons, despite the loss of eleven weeks working of the then principal (east) slope through the accidental burning of the Pit-Head Works, and that notwithstanding the marked depression in the coal trade that year; and yet from the net gain that season a seven (7) per cent. annual dividend was paid, and \$11,000 placed to “rest,” etc. These were not its most prosperous years. Year after year dividends were paid regularly, the appointments about the property were not only well maintained, but largely added to, and paid out of profits exclusively; a four mile area (the Spring Hill Tract) with many thousands of acres of very valuable lands purchased, and not a dollar asked for from the shareholders! In 1882, a new slope was finished—fully equipped (from profits alone)—and a very large dividend paid on an increased capital, the increase being a 25 per cent. bonus in paid-up shares to the shareholders!

On the next half-year's working, a five (5) per cent. dividend on over \$800,000 capital was paid, and a considerable sum as surplus profits was handed over with the property to a Syndicate purchasing the same. The old company shareholders paid out from first to last directly only \$266,000 in purchase and development. They had divided amongst them in return, \$1,069,000—a fine return for their outlay!

21. The output of coal at Spring Hill for 1884 was 232,000 tons; for 1885, 335,000 tons; for 1886, 416,000 tons; and for 1887, 466,000 tons. The sales for those years were severally 215, 311, 389, and 439 thousand tons. The days labor performed at Spring Hill reached in 1885, 188,000; in 1886, 257,000; in 1887, 315,000. Now, from these sworn returns, and an average of seven (7) years' (average) cost of production, management, etc., taken from the books and accounts of the old company, with ample allowance for fluctuations in both the labor and the coal markets, and after providing for cost of maintenance, additions, repairs, incidentals, etc., from surplus earnings, there should have been for the owners and for "rest" account in 1884 about \$300,000; in 1885, \$435,000; in 1886, \$544,000; and in last year's operations, the enormous sum of \$614,000.

22. The Spring Hill Company had to grade, tie, and fence their Branch Railway from the Inter-

colonial (Govt.) Railway to the mines, entailing an outlay of about \$50,000 upon them. The Canadian Government now build such branches outright, and operate them, supplying also all needed rolling stock

Dated at AMHERST, NOVA SCOTIA,  
2nd of June, 1888.

E. N. SHARP, M.A.

## REPORT ON THE ADJOINING AREA OF ONE SQUARE MILE.

BY JOHN RUTHERFORD, ESQ., M.E.

---

DEAR SIR,—A Coal area, one square mile in extent, situated in the County of Cumberland, Province of Nova Scotia, which adjoins the Styles areas on the western end of these areas, and lies in a direct line with them ; the advantage of which position is, that mining operations can be continued from the one to the other, without interruption. The area contains the same seams as are found in the Styles areas, the existence of which has been proved by actual openings on that property, and also by openings on the crop in an area lying immediately to the rise of the Rutherford area.

The explorations in the last-named area have fully sustained the sizes and position of the seams opened on the Styles property, and proved the uninterrupted range of the strata in a westerly direction. The "Rutherford" area will therefore hold the seams throughout its entire extent.

A recent prospectory, about five miles to the west of the area, has resulted in the finding of a seam of coal six feet in thickness. This is probably

an overlying seam with respect to the Styles seams ; and in view of the position of the crop of these seams, there is no reason to doubt its extension into the " Rutherford " and " Styles " areas.

The position of these areas is, I consider, a most favorable one as regards facility of opening and capability of extension of the openings. Slopes sunk midway between the eastern end of the Styles and the western end of the " Rutherford " area, would effectually win the entire property, the advantage of the position of the " Rutherford " area being the range it affords for the workings in a westerly direction from the slopes, without the necessity of having to sink the slopes far to the dip in order to obtain such a hold of the seams as would be necessary if that area were situated more to the dip.

I do not think it necessary to give details of the size of the seams, the quality of the coal, etc., as I understand these are given in a special report on the Styles property ; but, it may be of interest to quote the opinion of the quality of the coal in this coal field, of a highly efficient member of the Geological Survey of Canada—the late Mr. Hartley—who made a special examination of the locality. An extract from the report is as follows :

" The analyses show the coal to belong to the class known as highly bituminous or fat coking coals, in character very similar to those of the North of England known as North country, or Newcastle Hartley coal."

"The high rate of volatile to fixed combustible matter should render this coal in common with the Newcastle coals, which it resembles, an admirable gas coal, while in the amount of sulphur it falls much below the average of Newcastle coals (which contains about nine-tenths of one per cent., as determined by the Admiralty steam coal trials) therefore the gas obtained from it should be very easily purified."

"The coke of the coal appears in every way well adapted for iron smelting, as it is firm and rather compact, and in content of ash and sulphur will compare most favorably with that from any coal from the Province."

I send with this a sketch map showing the Railways in Nova Scotia and New Brunswick, and the position of the coal property in this connection.

Yours truly,

JNO. RUTHERFORD.



## CONDENSED HISTORY OF COAL MINING IN NOVA SCOTIA.

The first official record of coal sales in Nova Scotia dates from the year 1785, when the total sales were 1,668 tons. The yearly output steadily increased, until in 1850 the sales reached a total of 180,084 tons. From that date until 1886 the sales in the United States, (coal then being on the free list,) were very large, amounting in 1865 to 465,194 tons. In 1867 the United States imposed a duty of \$1.25 per ton on imported coal, since which time the coal sales to that country have been much smaller, amounting in 1887 to 73,892 tons. The imposition of this duty had a bad effect on the coal trade of Nova Scotia, but the output steadily increased, as will be seen on reference to the tables below, which are taken from the official reports.

In 1879 the Dominion Government adopted the "National Policy," and imposed a duty of 75 cts. on coal imported into the Dominion.

This duty gave new life to the coal mining industry and secured the Quebec market, which before had obtained its coal supplies principally from the United States.

The sales in 1879, the first year of the imposition of the duty, amounted to 688,628 tons, while in 1887 the total output was 1,519,684 tons, showing

a most satisfactory increase under the provisions of the new tariff. All the mines in the Province are now pressed to fill orders, and the demand for coal is largely on the increase. It is probable that large iron and copper smelting works will be opened in the Province at an early date, and this will create a large additional demand.

The coal is now working its way into the Province of Ontario, and the prospects of the coal mines of Nova Scotia were never so bright as at present.

The Spring Hill mines produced in 1887 466,223 tons, and were pressed to meet their orders. The Styles areas are as advantageously situated for shipment as the Spring Hill mines, and a ready market at remunerative prices, is assured for all the coal that may be mined

The following table taken from the report of the Inspector of Mines, Nova Scotia, shows the coal sales from 1879 to 1887 inclusive:

1879.....	688,628
1880.....	954,659
1881.....	1,035,014
1882.....	1,250,179
1883.....	1,297,523
1884.....	1,261,650
1885.....	1,254,510
1886.....	1,373,666
1887.....	1,519,684

Summary of coal sales from 1785 to 1880, Mines Report, Page 50.

• 1785 to 1790.....	14,394
1791 to 1800.....	51,084
1801 to 1810.....	70,452
1811 to 1820.....	91,527
1821 to 1830.....	140,820
1831 to 1840.....	839,981
1841 to 1850.....	1,533,798
1851 to 1860.....	2,399,829
1861 to 1870 ....	4,927,339
1871 to 1880.....	7,377,428

Nova Scotia coal trade in 1887, Mines Report, Page 4 :—

“The total sales for the year 1887 amounted to 1,519,684 tons, against 1,373,666 tons in 1886 ; being an increase of 146,018 tons.

As compared with the sales of the year 1886 the most noticeable points are :

The home sales were 469,464 tons, compared with 460,237 tons in 1884.

The Province of Quebec took 650,858 tons, against 538,762 tons in 1886, and 493,917 tons in 1885, and 396,782 tons in 1884.

The sales to New Brunswick were 186,511 tons, compared with 175,918 tons during the preceding year.

Newfoundland took 82,053 tons, against 71,476 tons in 1886.

The sales to Prince Edward Island were 50,615 tons, against 49,168 tons in 1886.

The sales to the United States comprised 2,558 tons of round, 35,722 of slack, and 35,612 tons of run of mine coal; in all 73,892 tons, against 66,003 tons in 1886. Of this amount all the run of mine was sent from Parrsboro. The total Cumberland shipments being 41,387 tons. Cape Breton sent to the same market 29,285 tons of slack and 1,851 tons of round coal."

C. F. FRASER,  
HOWARD CLARK.

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